Claims

1. A driver assembly for a panel loudspeaker, the driver assembly comprising a voice coil, a magnet assembly, a substantially rigid planar member, and a retaining element for retaining the magnet assembly with respect to the voice coil, wherein the retaining element defines a first surface adapted to be removably coupled to a panel forming an acoustic radiator, and the substantially rigid planar member is attached to the voice coil and is disposed between the voice coil and said first surface.

2. The driver assembly as claimed in Claim 1 wherein the retaining element consists of a hydrogel.

3. The driver assembly as claimed in Claim 1 or Claim 2 wherein the retaining element consists of silicone.

4. The driver assembly as claimed in any preceding Claim wherein retaining element consists of a material having a Shore A hardness in the range 0 to 20.

5. The driver assembly as claimed in Claim 4 wherein retaining element consists of a material having a Shore A hardness in the range 5 to 15.

6. The driver assembly as claimed in Claim 5 wherein retaining element consists of a material having a Shore A hardness of approximately 10.

7. The driver assembly as claimed in any preceding Claim wherein the retaining element functions to retain the voice coil and the magnet assembly in a spatially separated relationship.

8. The driver assembly as claimed in any preceding Claim wherein the retaining element consists of a single moulded element.

9. The driver assembly as claimed in any preceding Claim wherein the first surface is adapted to be removably coupled to the panel forming the acoustic radiator.

10. The driver assembly as claimed in any preceding Claim wherein the magnet assembly comprises an axially extending central portion defining a first pole of a permanent magnet, a radially extending portion coupling the central portion to an axially extending magnetic shroud, the shroud defining a second pole of the permanent magnet, wherein the central portion and the shroud define a flux space therebetween.

11. The driver assembly as claimed in Claim 10 wherein the voice coil extends into the flux space.

12. The driver assembly as claimed in Claim 10 or Claim 11 wherein the flux space is annular.

13. The driver assembly as claimed in any preceding Claim wherein the retaining element comprises a disc defining the first surface.

14. The driver assembly as claimed in Claim 13 wherein the retaining element comprises a wall upstanding from an opposing surface of the disc.

15. The driver assembly as claimed in any preceding Claim wherein a volume defined by the retaining element accommodates the magnet assembly and the voice coil.

16. The driver assembly as claimed in Claim 14 or Claim 15 wherein the planar member is mounted adjacent said opposing surface of the disc.

17. The driver assembly as claimed in any of Claims 13 to 16 wherein the wall has an inner diameter and an outer diameter, and the disc has a diameter greater than said outer diameter such that the disc defines a flange around the wall.

18. The driver assembly as claimed in any of Claims 14 to 17 wherein said opposing surface of the disc is provided with one or more continuous ridges extending around the wall.

19. The driver assembly as claimed in Claim 18 wherein the continuous ridges are concentric with the wall.

20. The driver assembly as claimed in any of Claims 14 to 19 wherein the wall is provided with a radially extending flange for engaging the magnet assembly.

21. The driver assembly as claimed in any of Claims 14 to 20 wherein the outer diameter of the wall decreases in a direction away from the disc.

22. A driver assembly for a panel loudspeaker, the driver assembly comprising a voice coil, a magnet assembly, and a moulded retaining element for retaining the magnet assembly with respect to the voice coil, wherein the moulded retaining element defines a first surface adapted to be coupled to panel forming an acoustic radiator.

23. The driver assembly as claimed in Claim 22 wherein the moulded retaining element consists of an elastomer material.

24. The driver assembly as claimed in Claim 23 wherein the elastomer is a hydrogel.

25. The driver assembly as claimed in any of Claims 22 to 24 further comprising a substantially rigid planar member attached to the voice coil, the planar member being disposed between the voice coil and said first surface.

26. A retaining element for a panel loudspeaker driver assembly, the retaining element comprising a disc defining a first surface adapted to be removably coupled to an acoustic radiator, and a wall

upstanding from an opposing surface of the disc, wherein the wall is adapted to accommodate a voice coil and a magnet assembly in a spatially separated relationship.

27. A method of mounting an acoustic radiator of a panel loudspeaker comprising the steps of:
locating a voice coil and a magnet assembly in a moulded retaining element, and;
removably attaching a surface defined by the moulded retaining element to a panel forming the acoustic radiator.

28. The method as claimed in Claim 27 wherein the surface is removably attached to the panel without auxiliary fixing means.

29. The method as claimed in Claim 28 wherein the surface is removably attached to the panel by adhesion.

30. A method of manufacturing a driving assembly for a panel loudspeaker, the method comprising the steps of:
forming a retaining member by injection moulding, and;
assembling a voice coil and magnet assembly in the retaining member.